

**A NEW SPECIES OF *CHARAXES* OCHSENHEIMER
(LEPIDOPTERA: NYMPHALIDAE) FROM EAST TIMOR**

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Abstract

Charaxes marki sp. n. is described and figured from East Timor and compared with *C. elwesi* Joicey & Talbot, *C. mars* Staudinger and *C. madensis* Rothschild, to which it shows some relationship.

Introduction

Charaxes Ochsenheimer is a predominantly Afrotropical genus of more than 140 known species (Smart 1975). Approximately 20 species are recorded from the Indo-Pacific region, extending as far east as the Bismarck Archipelago, Papua New Guinea (D'Abrera 1990, Tsukada 1991, Parsons 1998), but with a concentration of distribution in South East Asia. Only one species, *C. latona* Butler, is known to occur east of the Moluccas.

Tsukada (1991) depicted nearly all of the described *Charaxes*, including *C. musashi* Tsukada, a new species similar to *C. affinis* Butler, and a number of new subspecies. That work also covered several *Charaxes* subspecies described recently by Japanese authors (e.g. Hanafusa 1985, Morinaka 1990, Nishiyama and Ohtani 1981) from the Lesser Sunda Islands. However, both D'Abrera (1990) and Tsukada (1991) recorded only *C. orilus* Butler from East Timor.

Recent fieldwork by one of us (DL, in conjunction with Mark Lane) in East Timor has yielded a highly distinctive, previously undescribed species of *Charaxes*, showing affinities with *C. elwesi* Joicey & Talbot, *C. mars* Staudinger and *C. madensis* Rothschild. It is described below.

***Charaxes marki* sp. n.**

(Figs 1-3)

Type. Holotype ♂, EAST TIMOR: 5 km NW Bobonaro, 1000 m, 9°00'35"S, 125°17'E, 20.i.2004, D.A. & M.D. Lane (in Australian National Insect Collection (ANIC), Canberra).

Description. Male (Figs. 1-2). Forewing length 41 mm (centre of thorax to apex). Head, thorax and abdomen brown; antennae half length of costa. Forewing with costa strongly bowed from 1/2 to 3/4 towards apex, fairly straight otherwise; apex sharply acute; termen gradually then strongly concave to CuA₂, then angled basally; tornus sharply rounded; dorsum straight. Hindwing termen rounded from apex to CuA₁, then strongly indented to 1A; tornus sharply rounded, dorsum slightly bowed. A tooth-like tail projection 5 mm long extends along CuA₁.

Forewing upperside broadly black, orange basally for 1/3 but with a black central band in discal cell; an orange median band, strongly indented between veins, extends from costa to dorsum; a much shorter postmedian band, similarly indented between veins, extends from costa to M_2 . A subapical and subterminal band, which is a series of orange spots centrally located between veins, extends parallel to termen, but not reaching dorsum. Hindwing upperside broadly black, basally brown. A broad white patch extends from dorsum across lower half of hind wing to CuA_1 , then centrally across outer cell and postmedian area to M_2 , therein extending to costa but in that area overlaid with orange, giving a rusty brown appearance. A black median band, indented between veins, extends from costa to just above cell. A row of black subterminal spots located between veins and overlaying white patch extends from tornus to CuA_1 . Forewing underside broadly grey-brown, with a mirror image of upperside orange bands much paler, edged black/dark brown; a grey patch at apex, extending into a grey terminal band that runs parallel to termen but not reaching dorsum; termen area brown. Hindwing underside broadly grey/brown, with grey fleck overlay; a series of light orange submedian and median patches, faintly edged black; terminal area brown, with a row of black spots, edged white and indented basally, located between veins, extends from apex to tornus in an arc roughly parallel to termen; a distinctive brown band extends from apex, bowed slightly basally, to just above tornus.

Male genitalia (Fig. 3, Genitalia slide ANIC 18571). Tegumen elongate, bulbous posteriorly, broad and keel-shaped laterally; sociuncus with prominent crown posteriorly, bent backwards, uncus sharp laterally and broad, saddle-shaped dorsally, with numerous long fine setae; vinculum uniformly very narrow; gnathos brachia acute, nearly parallel to uncus in lateral view; valvae broad and tapered apically in lateral view, dorsally with single large sclerotised hook apically, outer edge of valvae irregular, covered with long fine setae; juxta long and narrow, tapered apically, strongly bowed downwards, weakly bifurcated posteriorly, with pair of proximal fine processes, aedeagus elongate and irregular, bulbous posteriorly with very sharply tapering apex, adorned dorsally along prominent ridge with very short, evenly spaced black spines along apical third of aedeagus.

Female. Unknown.

Etymology. Named after Mark Lane, who spent seven months in East Timor in 2002, under a United Nations military deployment. During this period Mark collected many interesting specimens of moths and butterflies, often under extremely difficult and arduous conditions.

Comments. *Charaxes marki* is a distinctive species readily distinguishable by its wing shape, pattern, colouration and male genitalic characters. In particular, the strongly contrasting fore and hind wing colouration is very striking.



Figs 1-2. *Charaxes marki* sp. n., holotype male. (1) upperside; (2) underside.

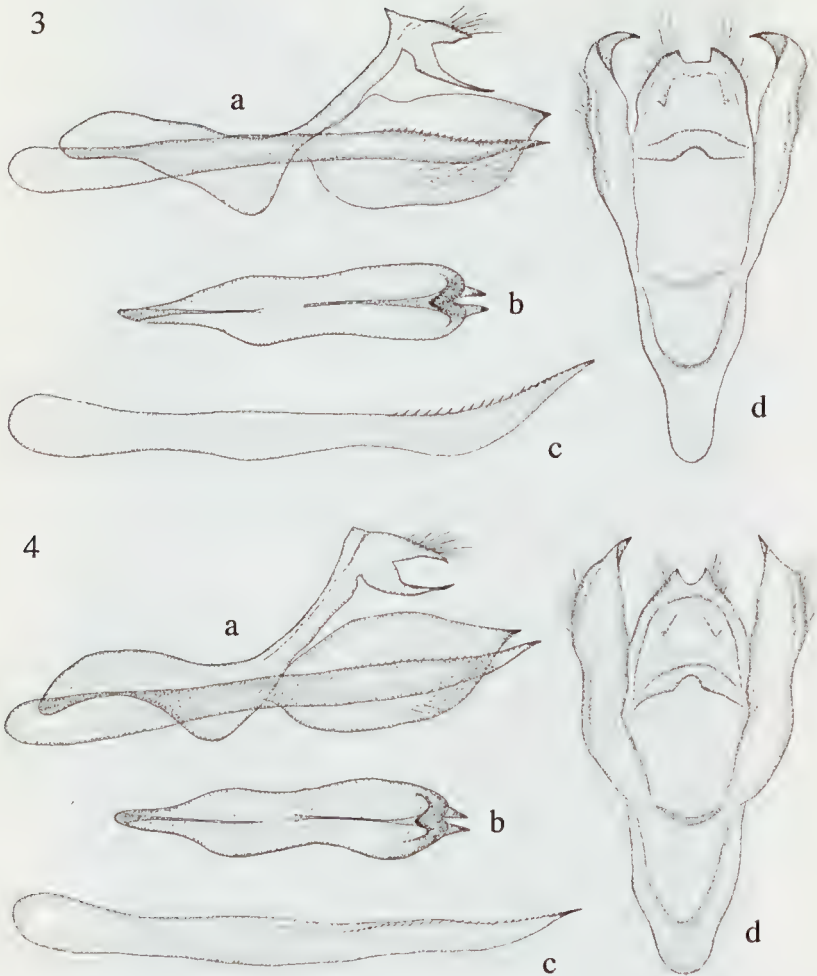


Fig. 3-4. *Charaxes* spp., male genitalia. (3) *C. marki* sp. n., genitalia slide ANIC 18571: (a) genitalia with right valva removed, lateral view, 10X; (b) juxta, ventral view, 20X; (c) aedeagus, lateral view, 10X; (d) genitalia, dorsal view, 10X. (4) *C. elwesi*: (a) genitalia with right valva removed, lateral view, 10X; (b) juxta, ventral view, 20X; (c) aedeagus, lateral view, 10X; (d) genitalia, dorsal view, 10X.

The holotype has an unusually shaped hind wing unlike any other known Indo-Pacific *Charaxes* species. It is distinct in that the sub-tornal part of the termen between the single, very prominent tail and the tornus is strongly indented and the inner margin is very pale cream, quite unlike all other described *Charaxes* species in the region.

C. mars (from Sulawesi), *C. madensis* (from Buru) and *C. elwesi* (from the Lesser Sunda Islands) all show some relationship to the new species. In all of these species, except *C. madensis*, the costal third of the hindwing upperside is darkened and the submarginal dark spots are represented as elongated flecks. The male forewing upperside of *C. marki* is reminiscent of *C. madensis*, having a dark brown ground colour with several bands of dull orange-brown. Beneath, the colouration and pattern reflects *C. elwesi* but it is much sootier than that species. The postmedian band configuration of *C. marki* is similar to that of *C. elwesi* but this band is much narrower, and bowed towards the termen at both the tornus of the forewing and the apex of the hind wing in *C. marki*, while it is comparatively straight in *C. elwesi*.

Genitalic characters are generally poorly diagnostic among the Indo-Pacific Charaxinae (C. Müller, pers. obs.; Smiles (1982) for *Polyura* Billberg). The U-shaped sociuncus (in dorsal view), short but sharp gnathos brachia, sclerotised valvae and simple, strongly tapered aedeagus are all characteristic of Indo-Pacific *Charaxes*. However, *C. marki* shows a number of distinctive features when compared with *C. mars*, *C. madensis* and *C. elwesi* (Fig. 4), features of the latter suggesting the closer relationship. The overall squat appearance of the genitalia in dorsal view may be attributed to the broad valvae with a thickened sclerotised hook apically as well as the rounded sociuncus which lacks the pronounced uncus spines found in the other taxa. The vinculum is very narrow and of uniform thickness in *C. marki* and the saccus is simple and less bowed than in the other taxa. Additionally, the juxta, viewed ventrally, is very long and tapered apically and the aedeagus is irregular along its edges. Also, the short, evenly spaced spines along the dorsal ridge of the aedeagus are thicker than in the other taxa examined.

Observations

The area in which *C. marki* was observed is a series of limestone ridges and outcrops, clothed in dense vine scrub. The holotype was collected on the summit of one of these limestone ridges and appeared to portray typical hill-topping behaviour. *Polyura galaxia galaxia* Butler was a regular visitor to these same ridge tops. *Charaxes orilus* was collected on lower sections of the ridges and did not appear to exhibit hill-topping behaviour.

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